



SHOAL CREEK WATERSHED ACTION PLAN

Stakeholder Meeting: April 2, 2019



Welcome, Agenda, Timeline



Adopted Goal Statement

What will Shoal Creek be like after the Watershed Action Plan is implemented?

Shoal Creek is a model healthy and resilient urban watershed that benefits people and nature, and is supported by a well-informed and engaged community.



Working Groups Objectives Recap

January 30 Task: Set objectives related to the purpose of your working group. These objectives should define how we, as a community, will meet the goal: *Shoal Creek is a model healthy and resilient urban watershed that benefits people and nature, and is supported by a well-informed and engaged community.*

Working Groups Progress:

Water

Land Stewardship

Education & Outreach

Implementation



Contact Recreation Objective?



Why Contact Recreation?

- EPA and TCEQ WPP require water bacteria levels be safe for contact recreation
- >90% E.Coli bacteria management is necessary to meet the contact recreation standard



Potential Bacteria Sources

- Sanitary sewer overflows
- Leaking wastewater lines
- Wildlife
- Pets
- Direct human contributions



Spicewood Tributary (Shoal Creek TMDL)

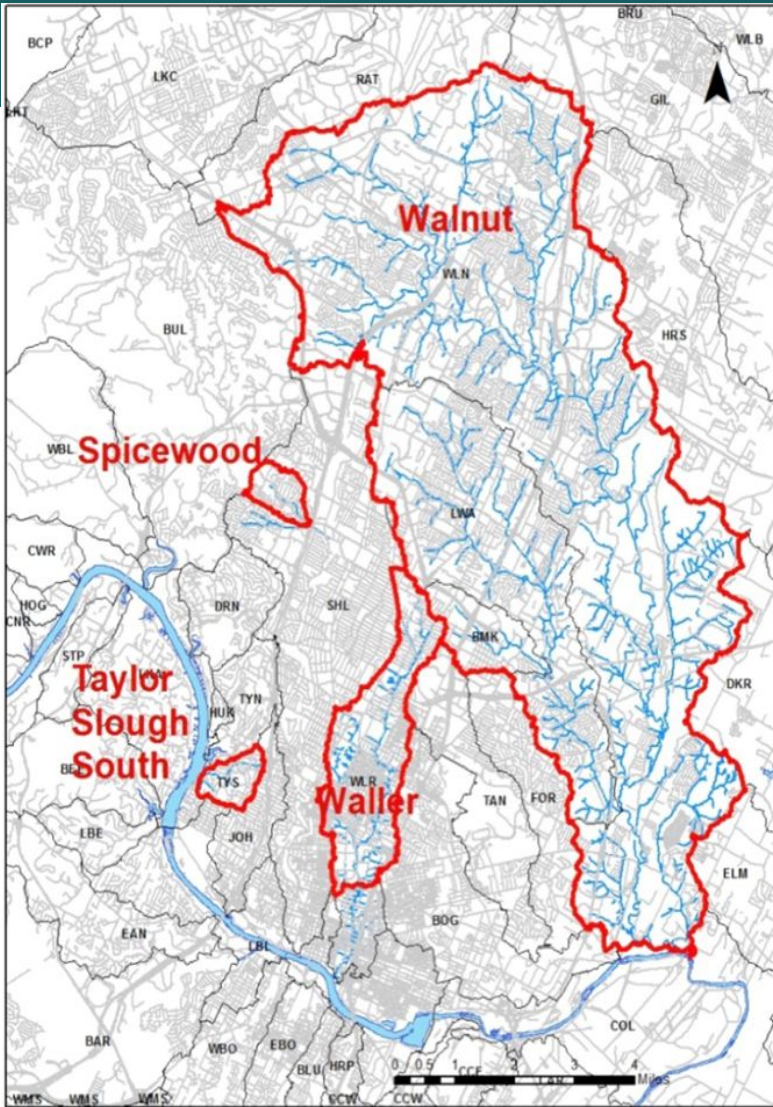


Figure 1. Map of watersheds in Austin listed as impaired for contact recreation by the TCEQ.

- TMDL defines the amount a pollutant must be reduced to meet State standards
 - Recommends measures to manage bacteria
1. **Riparian Zone Restoration** – “grow zones” along streams
 2. **Wastewater Infrastructure** – inspect & repair systems
 3. **Domestic Pet Waste** – COA “scoop the poop” initiative
 4. **Resident Outreach** – Public Education programs
 5. **Stormwater Treatment** – Constructed measures (rain gardens, media filters, detention basins) water quality basin maintenance

Grow Zones



Mowed



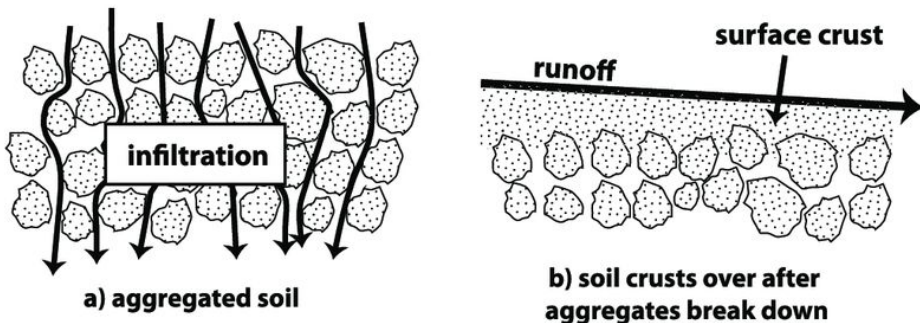
First Year Growth



5 to 10 Years

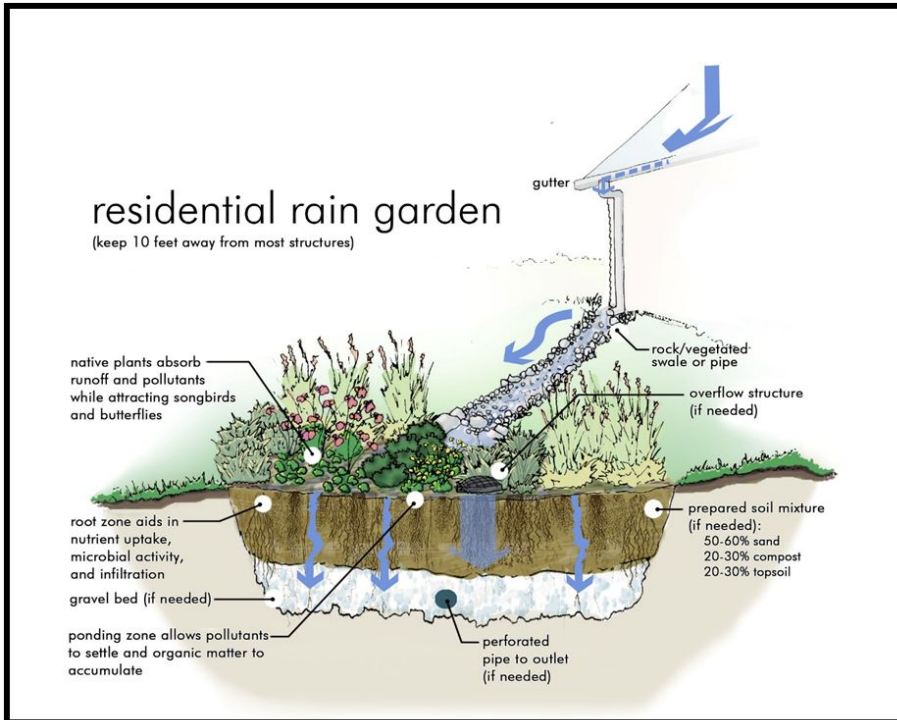
- ~25 feet of native plant growth along both banks
- Catch and filter stormwater runoff before reaching creek
- Manage stream bank erosion
- Reduce downstream flooding

Changes in water flow due to soil crusting/compaction.



Rain Gardens

- 0.3" rain on 8,000 ft² lot = 200 ft³
Rain garden area: 250 ft²
- 0.3" rain on 12,000 ft² lot = 300 ft³
Rain garden area: 375 ft²



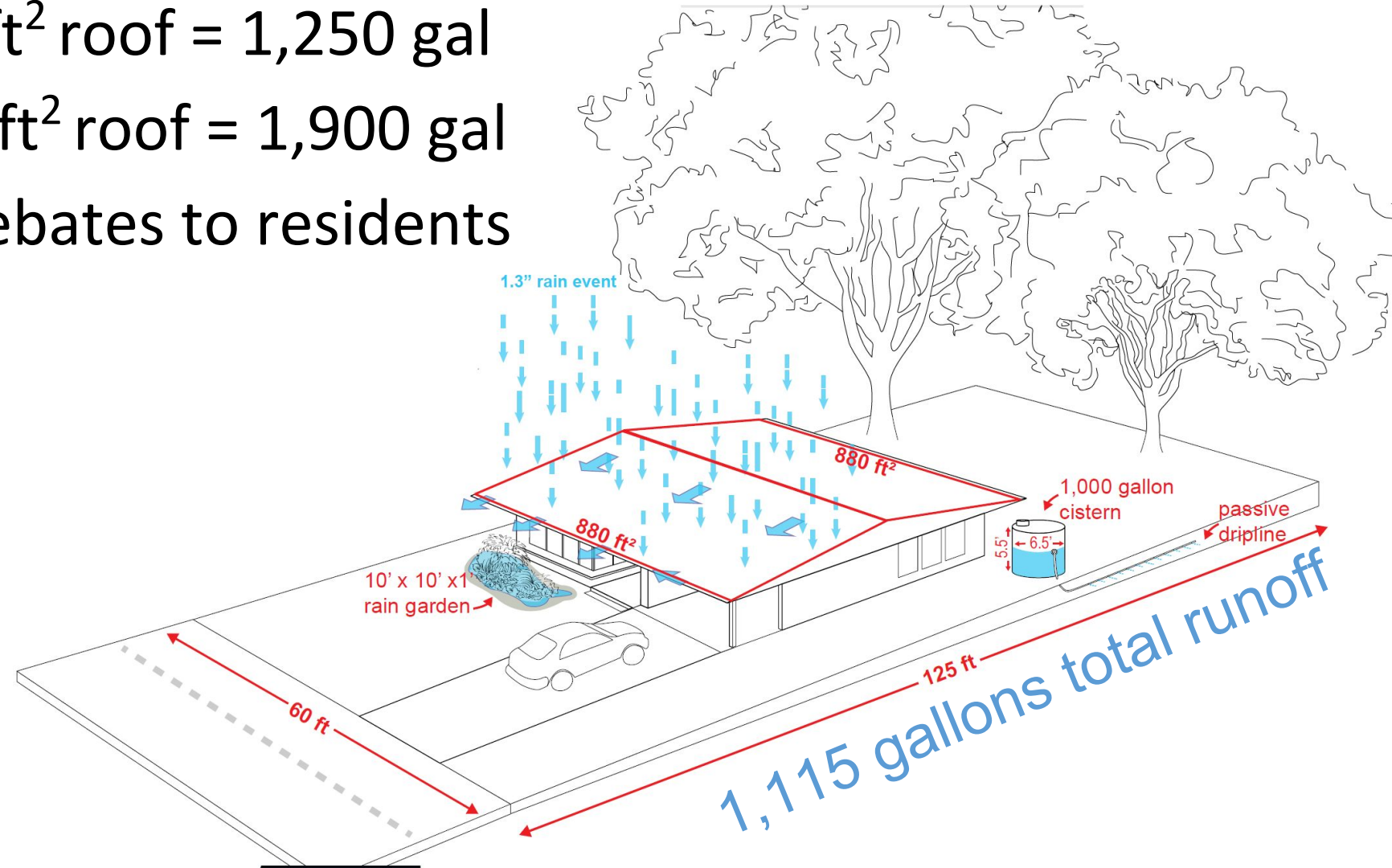
- \$500 WaterWise Rainscape Rebate
- \$1,750 WaterWise Landscape Rebate

Rain Water Harvesting

- 1" rainfall on 2,000 ft² roof = 1,250 gal
- 1" rainfall on 3,000 ft² roof = 1,900 gal
- COA offers \$5,000 rebates to residents

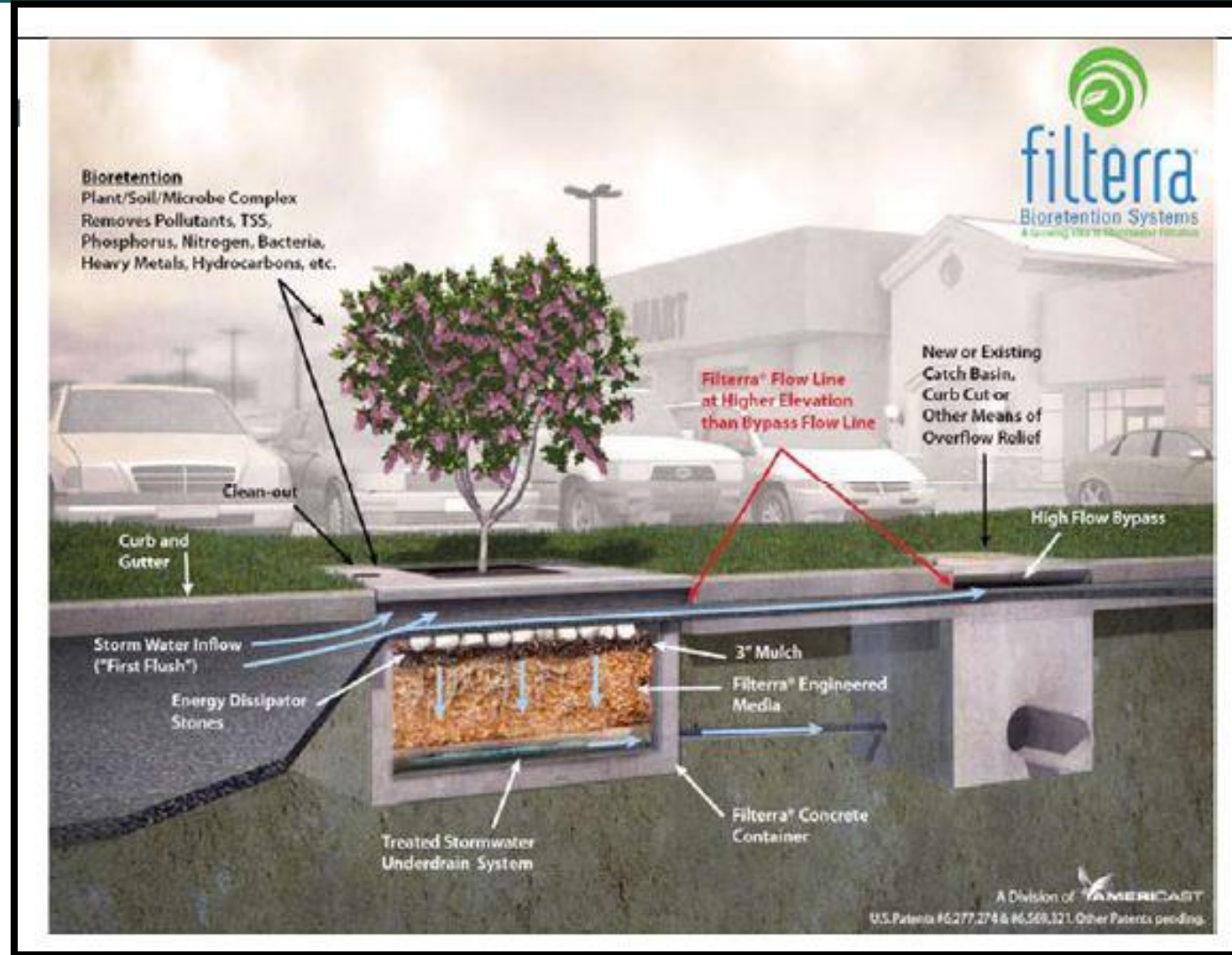


1,000 gal tank



Media Filters/Storm Drain Management

- Over 3,000 storm drain inlets
- More than 400 storm drain outfalls to the creek



Rain Catchers Pilot in Upper Waller

- 1 square mile drainage area
- 1,250 homes (47% impervious cover)
- Healthy soils and native plant communities
- Use stormwater as a resource
- Rain gardens to promote infiltration and baseflow
- Improved water quality
- Restore creek buffers

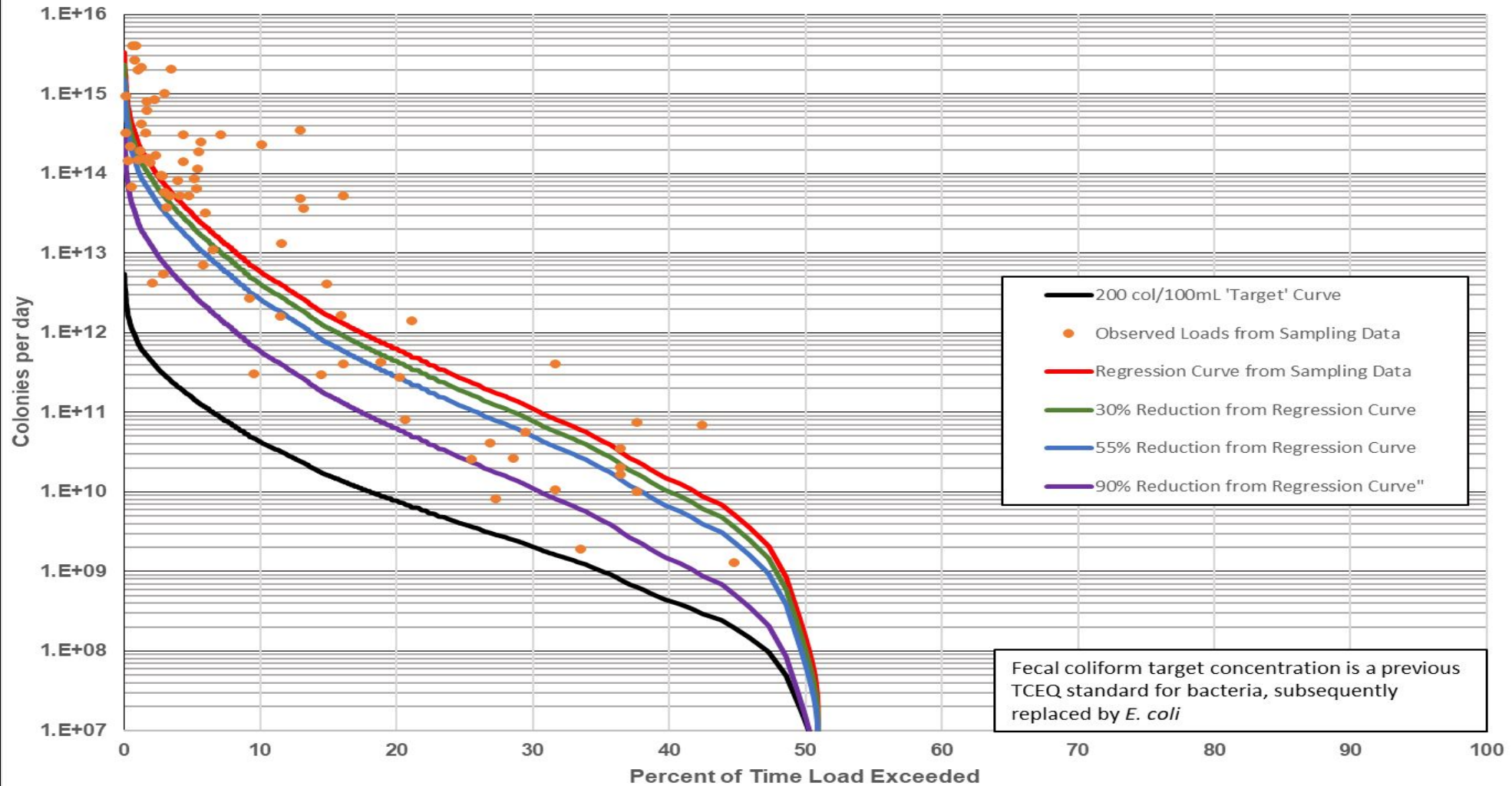
City Watershed Ordinance

- Manages new development runoff
- Runoff managed by
 - Water quality basins – Filtration
 - Vegetated filter strips
 - Rain gardens
 - Disconnected runoff
 - Pervious pavements



LDC – Scenarios

Figure 4:
Fecal Coliform Load Duration Curve
Shoal Creek at 12th Street (Jan 1983 - Jul 2018)



Scenario Analysis

ITEM	Scenario 1 (1/2" ROV, 48 hr)	Scenario 2 (1/2" ROV, 24 hr)	Scenario 2A (1.3" ROV, 24 hr)
Total BMP Volume (acre-ft)	345	345	900
Rain Garden Surface Area (acres)	345	345	900
Pounds TSS managed/year	305,000	2,024,082	3,630,056
# Dump Trucks/year	8	52	95
Bacteria reduction	30%	55%	90%

Land Use	Acres	% of Watershed
Commercial	2783	33.5%
Residential	3307	40%
Transportation/Roads	1829	22%
Parks/Open Space	373	4.5%
Water	7	0.1%
TOTAL Watershed Acreage:	8,300	

Working Group Breakout

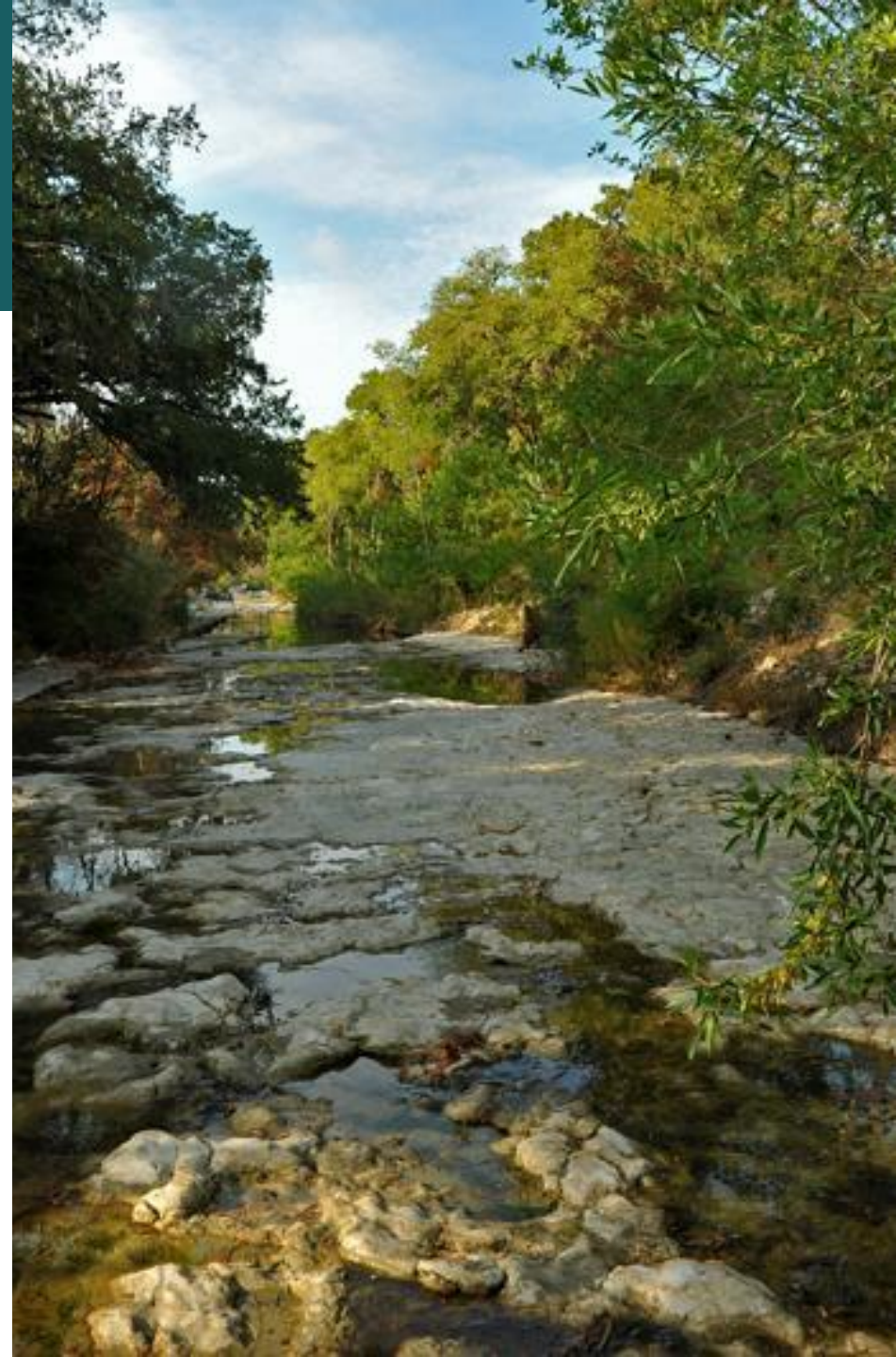
Groups:

- Water (*Leader: Jennifer Walker*)
- Land Stewardship (*Leader: Ranleigh Hirsh*)
- Education & Outreach (*Leader: Ryan Spencer*)
- Implementation (*Leader: Joanna Wolaver*)

Today:

“How do we create a healthy and resilient watershed?”

Begin Management Measures Discussion





Wrap-Up & Public Comments

Partners



And Shoal Creek Stakeholders

This cooperative project is funded in part by the Texas Commission on Environmental Quality (TCEQ) through a United States Environmental Protection Agency (EPA) grant.